What is claimed is:

1. A projection display device having an optical system, the optical system comprising:

a light source for emitting lights along a first direction to define an optical axis; and

a light pipe, non-coaxially disposed with the optical axis, receiving the lights from the light source and transmitting lights with a virtual arc array,

wherein the light pipe deviates from the optical axis by a predetermined distance in a second direction perpendicular to the first direction, so that the lights with the virtual arc array is asymmetrical.

2. The device as claimed in claim 1, wherein the predetermined distance is substantially between 0.3 and 0.7mm.

3. The device as claimed in claim 1, further comprising a convergent lens, positioned between the light source and the light pipe, to focus the lights from the light source to the light pipe.

4. The device as claimed in claim 3, wherein the light pipe comprises a lens module for receiving focused lights transmitted from the convergent lens, and outputting the focused lights uniformly.

5. The device as claimed in claim 1, further comprising a relay lens module and a projection plane,

wherein the relay lens module relays the lights from the light pipe to the projection plane.

6. The device as claimed in claim 5, wherein the relay lens module comprises a spherical lens and an aspherical lens.

7. The device as claimed in claim 1, wherein the projection display device is a DLP (digital light processing) projector.

8. The device as claimed in claim 1, wherein the first direction is parallel to an axis on a XY-plane, and the second direction corresponds to a Z-axis.

9. The device as claimed in claim 1, wherein the light pipe deviates oppositely from the light source.